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Build a Pie Safe

A project plan for
a 19th century
cook's companion



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Build a Pie Safe

A 19th-century
cook's companion
adapts well to
modern storage

BY MIKE DUNBAR

When my wife and I decided recently that we needed more room for her holiday dishes and large servingware, we agreed that an attractive way to store them would be in a hardwood pie safe. Although the first pie safes were built to protect cheese and baked goods in 19th-century kitchens, their simple design adapts comfortably to today's more modern and more formal surroundings.

Being pieces of utilitarian kitchen furniture, most of the early pie safes were quite simple, sometimes downright crude. The average piece was made at home from local softwoods such as pine or yellow poplar and finished with paint. Still, some very sophisticated and elegant hardwood pie safes were made in cabinet shops for those families who could afford the very best.

This pie safe was inspired by the more formal examples. I kept the simple design of the originals but made it more of a showpiece by using figured hardwood—yellow birch with a flame figure.

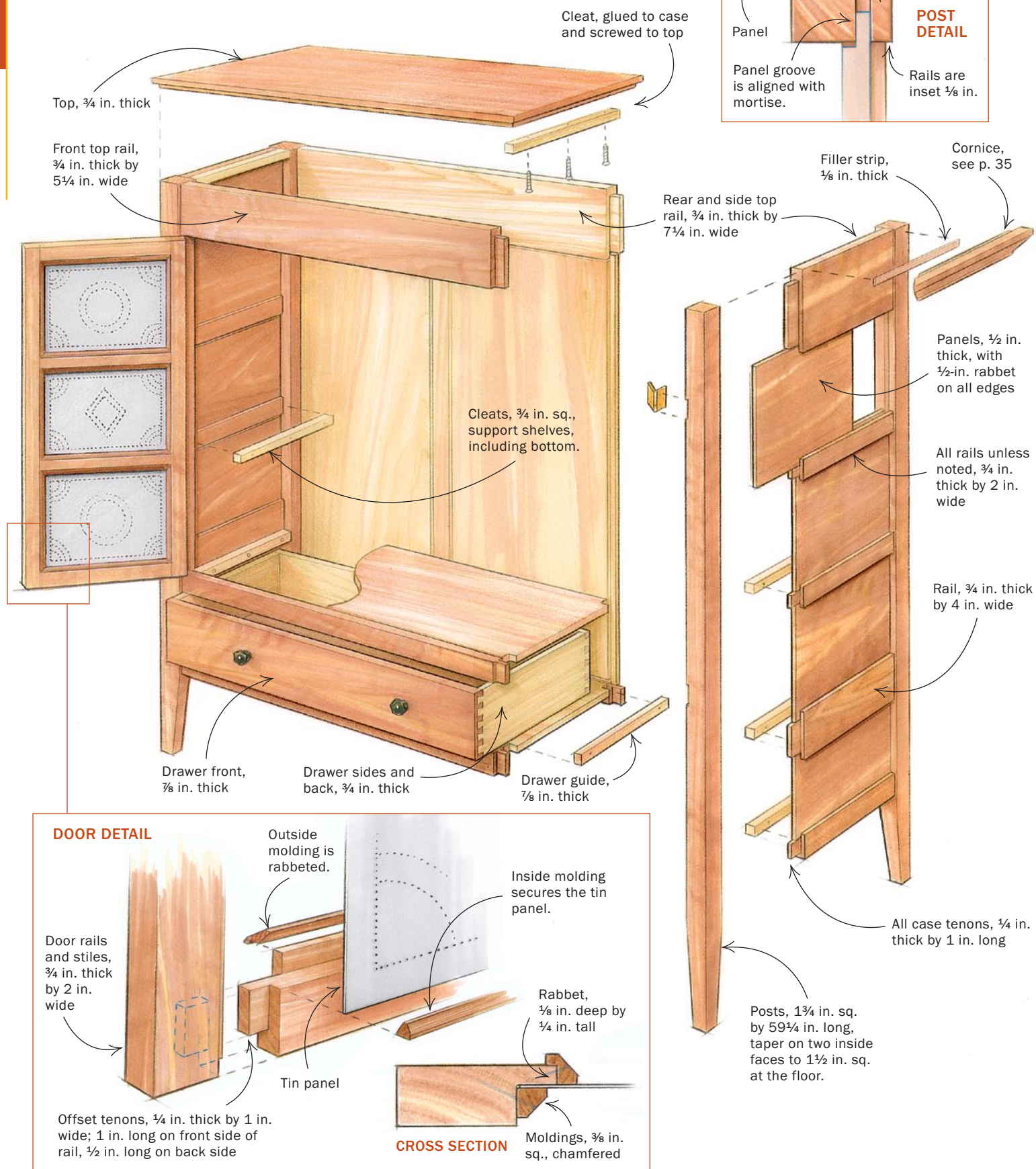
The carcass is a large frame

Most of the joinery for the case can be tackled on the mortiser and tablesaw. The challenge is in staying organized while cutting the 48 mortise-and-tenon joints the piece requires. Make the mortises in the



A STUDY IN FRAME AND PANEL

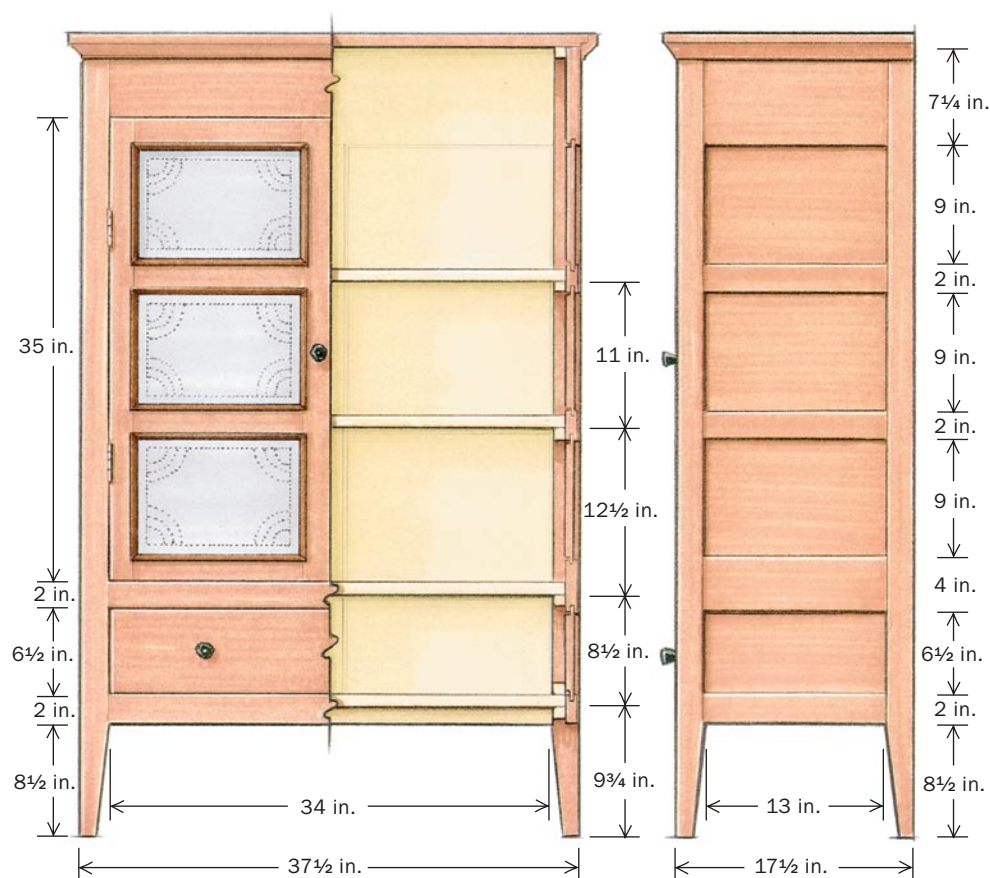
This 19th-century pie safe is made of flame birch, with tin door panels. Eastern white pine is used as a secondary wood for the back panels, shelves, and shelf cleats.



START WITH THE ENDS WHEN GLUING THE CASE



Slide the rabbeted panels into position and clamp everything. Then join the case together. Glue up the stretchers and back, and put the whole assembly under clamps.



posts first. Because all the posts are identical, confusing them is a real possibility. Mark each with its location in the frame. Then identify the surfaces to be mortised. Finally, lay out the mortises. Check your work one last time before cutting. With the mortises cut, it is possible to cut and fit test tenons on a piece of scrapwood until you reach a setup that gives you a smooth, easy fit. Cut the rail tenons and dry-fit the frame under clamps so that you can check it for square.

For the side panels, I chose a birch board with a pattern of circles that resembled a string of pearls running up the center. It is a pattern I do not recall seeing before. Lay out the order of your panels in the board you choose and cut them to dimension. Identify the front surfaces and cut the rabbets. At the same time, cut the rabbets on the large pine panels for the back.

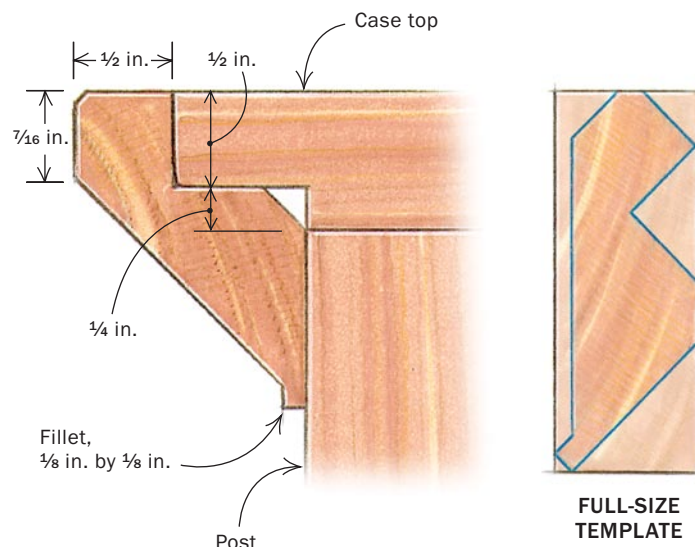
Groove the posts and rails to receive the rabbeted panels. In the posts, the groove's lower end is blind (stopped) to prevent it from showing in the legs. I did this by starting the router cut in the lowest mortise. Some pie safes had punched-tin panels on the sides as well as the doors. If you choose this approach, you will have



Tack the cornice into place. The molding's angular profile accentuates the square corners of the piece.

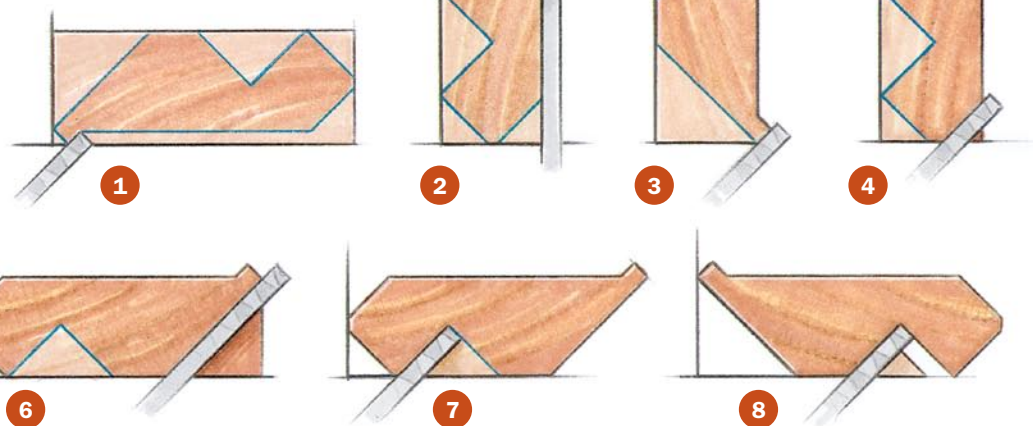
Crown molding that you can make on the tablesaw

A series of angled cuts yields a rabbeted cornice that accepts the top of the case and creates a flat surface for displaying items on top.



CORNICE CUTTING SEQUENCE

This simple, angular profile can be milled from a piece of stock $\frac{3}{4}$ in. thick by 2 in. wide. It requires a series of eight cuts, all but one made with the blade tilted to 45° . Cutting in the sequence shown ensures a flat reference face for each cut.



to rabbet the rails and glue vertical support strips to the posts.

Take apart the carcase. This is a good time to taper the posts. Dry-fit again with the side and back panels in place, and pull the frame together with clamps. When satisfied, disassemble the parts and remove any machine marks and other blemishes that would show through the finish. I handplaned each surface, but sanding or scraping also would work. When the glue is dry, secure the shelf cleats and fit the

shelves, including the bottom panel. You can secure the shelves in place, but I let gravity do the job.

A cornice that doesn't hide the top

The cornice figures prominently in this pie safe. My wife wanted to use the top of the pie safe as a display shelf. For that reason, I made the cornice sit flush with the top, cutting a rabbet into the back of the cornice to accept the edge of the top. This way, objects placed there will be entirely

visible. The pie safe is square and flat. I wanted to use a cornice that continued that theme but added some visual interest. What I like about this one is that it is made completely on the tablesaw (see drawings, above).

Fit the cornice and top to the frame. When satisfied with the fit, screw the top in place through the interior cleats and nail the cornice in place with finish brads. Because the rails are recessed $\frac{1}{8}$ in. from the front of the posts, I used a $\frac{1}{8}$ -in.-thick

RABBET THE DOOR FRAMES BEFORE ASSEMBLY



Rabbet all the rails and stiles at once. This means fewer setups on the tablesaw.



Cut mortises before tenons. The tenons then can be sized for a precise fit.



Rail tenons look lopsided. The joinery needs shoulders of different heights to seat properly in the rabbeted stiles.

spacer behind the cornice that matched the width of the cornice and the length of the rails.

Assemble and fit the doors

To make the doors, begin by cutting a rabbet on the rear inside edges of the stiles and rails. Next, mortise the stiles. The mortises are cut into the rabbets' shoulders and are of necessity only $\frac{1}{4}$ in. wide.

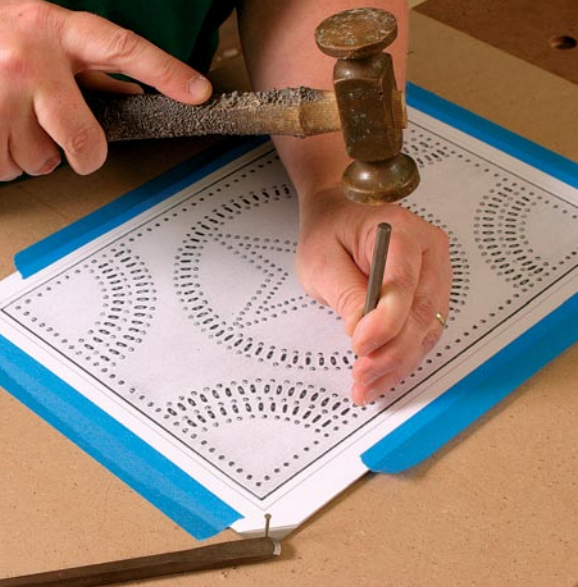
The tenons on the rail ends have offset shoulders to accommodate the rabbets in the stiles. Cut the tenon shoulders in all the rails first, taking care to ensure that

each tenon's short side is cut on the back side of the rail. Use a tenoning jig to cut the cheeks, raising the blade to cut the longer surfaces. Dry-fit the doors under clamps and check for square. Scrape, sand, or plane all visible surfaces, and glue and assemble the two doors.

Fit the doors to the carcase and mount them on their hinges. With the hinges fitted, mount the tin panels. As an accent to the light-colored birch, I chose to hold the tins in place with walnut molding inside and out that also acts as a shadow frame. The outside molding is rabbeted in the back



Assemble the door frames. Dry-fit the doors, check them for square, and prepare surfaces for finishing before breaking out the glue bottle.



Tack the tin onto an MDF backer board and tape the pattern in place. Punch the tin through the pattern using consistent force to ensure an even result.

Punching tin

The punched-tin door panels for this pie safe were easy and fun to make, requiring a few simple tools and some inexpensive materials.

Punches can be found online for as little as \$4.95 (www.piercedtin.com). A basic pointed tool and a chisel-type punch should be enough to make an attractive design. A 10-in. by 14-in. sheet of tin costs \$3 at Van Dykes Restorers (www.vandykes.com). Patterns are available from craft stores, or you can make your own by tracing or photocopying images that appeal to you. Be sure to choose a design that isn't too busy and that lends itself to making a clear silhouette. Consider wearing some support for your wrists. After a lengthy punching session, the hammer may leave the upper arm and wrist sore, and keeping a tight grip on the punch also can cause an aching thumb and forefinger.

—Priscilla Chellis



so that it fits over the edges of the doors and overlaps the stiles and rails. I glue the outside molding into place, but secure the inside molding with brads.

Apply the finishing touches

The drawer construction contains no surprises. I hand-dovetailed mine. You can use any drawer-construction techniques that you prefer.

The drawer will be used to store linens, which are lightweight. For that reason, I felt perfectly comfortable with the traditional solution of gluing in hardwood

runners instead of installing heavy-duty drawer slides.

The final touch is the hardware. Because pie safes come from a particular period, I chose to remain within the flavor of that time. Rather than plain butt hinges, I selected distinctive late-Victorian hinges with removable pins. The green glass pulls evoke the same period.

There is a lot of contrast between yellow birch's tan-colored heartwood and its creamy sapwood. I wanted to tone down this contrast while making sure the flame remained visible, so I stained the piece with

a strong brew of ordinary tea. I boiled a couple of cups of water and tossed in 10 tea bags, letting it brew for about 15 minutes. When the brew had cooled, I brushed it onto the piece. After the first coat had dried, I sanded with 330-grit paper. Not happy with the amount the wood had darkened, I applied a second coat and sanded again. Finally, I applied two coats of polyurethane, sanding each with 330 grit. □

Mike Dunbar is a contributing editor. His assistant, Fred Chellis, and his wife, Priscilla, helped in the construction of this project.



Secure the tin panels from the rear. A strip of molding, mitered and tacked into place behind the tin sheet, holds the panel in the frame created by the rabbets in the rails and stiles.